AMENDMENTS

IN THE SPECIFICATION:

Please amend the paragraph on page 1, lines 8-9, under the heading "CROSS REFERENCE TO RELATED APPLICATIONS," as indicated below:

This is a Divisional Application of Application Serial No. 09/235,416, filed January 23, 1999, which claims benefit under 35 U.S.C. §119(e) to Provisional Patent Application Serial No. 60/072,361 filed on January 23, 1998, now abandoned, which is herein incorporated by reference in its entirety for all purposes.

IN THE CLAIMS:

Please cancel Claims 3, 6, 10, 49, and 53.

Please amend the following claims as indicated:

1. (Amended once) An isolated nucleic acid sequence encoding a protein comprising amino acids 1 to 357 of SEQ ID NO:1.

2. (Amended once) The isolated nucleic acid sequence of Claim 1, wherein the protein specifically binds to polyclonal antibodies to *Thermomyces lanuginosus* gamma (TL-γ) protein listed as SEQ ID NO:1.

7. (Once Amended) The isolated nucleic acid sequence of Claim 1 comprising sequence 5' GATATTTCCACCGCCCGACAT 3' that is complementary to 5' ATGTCGGGCGGTGGAAATATC 3' (SEQ ID NO:3), or comprising sequence 5' TGAAAACAGCGAAGCAGGAATTC 3' that is complementary to 5' GAATTCCTGCTTCGCTGTTTTCA 3' (SEQ ID NO:4), wherein said isolated nucleic acid sequence encodes a protein having plus end-directed microtubule motor activity.

8. (Amended once) The isolated nucleic acid sequence of Claim 1, wherein the nucleic acid is isolated from a hyphal fungus.

9. (Amended once) The isolated nucleic acid sequence of Claim 8, wherein said fungus is *Thermomyces lanuginosus*.

11. (Amended Once) An expression vector comprising the nucleic acid sequence of Claim 1.

12. (Amended once) The expression vector of Claim 11, wherein the protein specifically binds to polyclonal antibodies to *Thermomyces lanuginosus* (TL- γ) protein listed as SEQ ID NO:1.

50. (Amended once) An isolated nucleic acid sequence comprising nucleotides 1-1071 of SEQ ID NO:2.

51. (Amended once) An isolated nucleic acid sequence comprising nucleotides 1327-1803 of SEQ ID NO:2.

52. (Amended once) An isolated nucleic acid sequence comprising nucleotides 1804-2352 of SEQ ID NO:2.

54. (Amended once) The nucleotide sequence of Claim 50, wherein said sequence encodes a protein having plus-end directed microtubule motor activity.

55. (Amended once) The nucleotide sequence of Claim 51, wherein said sequence encodes a protein having plus-end directed microtubule motor activity.

56. (Amended once) The nucleotide sequence of Claim 52, wherein said sequence encodes a protein having plus-end directed microtubule motor activity.

Please add the following new claims:

59. (New) The nucleic acid sequence of Claim 1, wherein the protein has plus end-directed microtubule motor activity.

60. (New) The nucleic acid sequence of Claim 11, wherein the protein has plus end-directed microtubule motor activity.

61. (New) An isolated nucleic acid sequence encoding a protein comprising amino acids 602 to 784 of SEQ ID NO:1.

62. (New) The nucleic acid sequence of Claim 61, wherein the protein has plus end-directed microtubule motor activity.

63. (New) The isolated nucleic acid sequence of Claim 62, wherein the protein specifically binds to polyclonal antibodies to *Thermomyces lanuginosus* gamma (TL-γ) protein listed as SEQ ID NO:1.

64. (New) An isolated nucleic acid sequence encoding a protein comprising amino acids 358 to 442 of SEQ ID NO:1.

65. (New) An isolated nucleic acid sequence encoding a protein comprising amino acids 443-601 of SEQ ID NO:1.

66. (New) The isolated nucleic acid sequence of Claim 1, wherein the encoded protein further comprises amino acids 602 to 784 of SEQ ID NO:1.

67. (New) The nucleic acid sequence of Claim 66, wherein the protein has plus end-directed microtubule motor activity

68. (New) The isolated nucleic acid sequence of Claim 1, wherein the encoded protein further comprises amino acids 358 to 442 of SEQ ID NO:1.

69. (New) The isolated nucleic acid sequence of Claim 1, wherein the encoded protein further comprises amino acids 443 to 601 of SEQ ID NO:1.

70. (New) The isolated nucleic acid of Claim 1, wherein the encoded protein further comprises at least one of amino acids 602 to 784 of SEQ ID NO:1, amino acids 358 to 442 of SEQ ID NO:1, and amino acids 443 to 601 of SEQ ID NO:1.

71. (New) An isolated nucleic acid sequence encoding a protein comprising a variant of amino acids 602 to 784 of SEQ ID NO:1, wherein the variant comprises isoleucine substituted for valine at amino acid position 713.

72. (New) An isolated nucleic acid sequence encoding a protein comprising a variant of amino acids 602 to 784 of SEQ ID NO:1, wherein the variant comprises glutamic acid substituted for aspartic acid at amino acid position 762.

73. (New) An isolated nucleic acid sequence encoding a protein comprising a variant of amino acids 602 to 784 of SEQ ID NO:1, wherein the variant comprises aspartic acid substituted for glutamic acid at amino acid position 774.

74. (New) The isolated nucleic acid sequence of Claim 1, wherein the nucleic acid is amplified by primer set SEQ ID NO:5 and SEQ ID NO:6 or by primer set SEQ ID NO:5 and SEQ ID NO:7.

75. (New) The nucleic acid sequence of Claim 74, wherein the protein has plus end-directed microtubule motor activity.

76. (New) The isolated nucleic acid sequence of Claim 1, wherein the nucleic acid is amplified by the primer set:

5' ATGTCGGGCGGTGGAAATATC 3' (SEQ ID NO:3)

5' GAATTCCTGCTTCGCTGTTTTCA 3' (SEQ ID NO:4)

77. (New) An expression vector comprising the nucleic acid sequence of Claim 4.

78. (New) A host cell transfected with the vector of Claim 77.

79. (New) An expression vector comprising the nucleic acid sequence of Claim 63.

80. (New) A host cell transfected with the vector of Claim 79.

81. (New) An expression vector comprising the nucleic acid sequence of Claim 64.

82. (New) A host cell transfected with the vector of Claim 81.

83. (New) An expression vector comprising the nucleic acid of Claim 60.

84. (New) A host cell transfected with the vector of Claim 83.

85. (New) An isolated nucleic acid sequence encoding a microtubule motor protein, wherein the protein has the following properties:

(i) the protein has greater than 95% amino acid sequence identity to SEQ ID NO:1 as measured using a sequence comparison algorithm; and

(ii) the protein has plus end-directed microtubule motor activity.

86. (New) An isolated nucleic acid sequence encoding a microtubule motor protein, wherein the protein has the following properties:

(i) the protein has a domain that has greater than 95% amino acid sequence identity to amino acids 1 to 357 of SEQ ID NO:1 as measured using a sequence comparison algorithm; and

(ii) the protein plus end-directed microtubule motor activity.

87. (New) An isolated nucleic acid sequence encoding a microtubule motor protein, wherein the protein has the following properties:

(i) the protein has a domain that has greater than 95% amino acid sequence identity to amino acids 443-601 of SEQ ID NO:1 as measured using a sequence comparison algorithm; and

(ii) the protein has plus end-directed microtubule motor activity.

88. (New) An isolated nucleic acid sequence encoding a microtubule motor protein, wherein the protein has the following properties:

(i) the protein has a domain that has greater than 95% amino acid sequence identity to amino acids 601 to 784 of SEQ ID NO:1 as measured using a sequence comparison algorithm; and

(ii) the protein has plus end-directed microtubule motor activity.